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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,154

05/31/2006

Jiangang Zhuang

42P23149

1869

45209

7590

12/10/2008

INTEL/BSTZ

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EXAMINER

PATEL, HETUL B

ART UNIT

PAPER NUMBER

2186

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,154	ZHUANG ET AL.	
	Examiner	Art Unit	
	HETUL PATEL	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11,14-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 3,12,13 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/06/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 02/06/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The clear support and antecedent basis is not found for the term "a machine-accessible medium" in the specification of the current application in such a way so that the meaning of the terms in the claims may be ascertainable by reference to the description.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 16-20 are rejected under 35 U.S.C. 112, second paragraph because a person of skill in the art would not be able to ascertain the metes and bound of the claimed invention, specifically, for the term “a machine-accessible medium” used in claims 16-20. The above mentioned term is not defined or even mentioned in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 4-8, 10-11, 14-16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kukol (USPN: 5,481,708).

As per claims 1, 5-6, 11, 15-16 and 20, Kukol teaches a method for optimizing an executable comprising: migrating a plurality of objects from a first memory to a second memory (i.e. copying (stack-based) variables from main memory to the stack; see 404 in Fig. 4); determining alignment of the migrated plurality of objects (i.e. determining offset; see 405 in Fig. 4); and eliminating redundant initialization code of the plurality of objects (i.e. common subexpression elimination; see Col. 2, lines 47-63 and Col. 11, lines 11-40). Kukol further teaches that the first memory is an external memory (i.e. the

main memory 102 in Fig. 1) and the second memory comprises a plurality of indexed registers residing in a microengine (i.e. the stack within the central processor 101 in Fig. 1; see Fig. 1).

As per claim 2, 8 and 14, Kukol teaches the claimed invention as described above and furthermore, Kukol teaches that the plurality of objects are variables (i.e. (stack-based) variables

As per claim 4, 18 and 19, Kukol teaches the claimed invention as described above and furthermore, Kukol teaches that the determining alignment further comprising: analyzing the migrated objects by forward disjunctive dataflow analysis; determining a minimum alignment necessary for each migrated object; and setting the minimum alignment necessary for each migrated object (i.e. aligning the variables by taking offset into account; see Fig. 5C and Col. 16, lines 34+).

As per claim 7, Kukol teaches the claimed invention as described above and furthermore, Kukol teaches that the plurality of registers are indexed (see Col. 16, lines 34-38).

As per claim 10, Kukol teaches the claimed invention as described above and furthermore, Kukol teaches that the network processing device is a router (i.e. the central processor 101 in Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2186

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kukol.

As per claim 9, Kukol teaches the claimed invention as described above, but failed to teach that the migrated plurality of objects are not shared by the processor and at least one other processor. Official Notice is taken on a prior art teaching a well-known subject matter of avoiding sharing the variables loaded into the registers of one processor with the other processor. By doing so, the data coherency is maintained. Accordingly, it would have been obvious to one of ordinary skills in the art at the time of the current invention was made to implement the well-known teaching in the Kukol's processing device so the data coherency is maintained; and the second processor is prevented from modifying the value of variables in the registers of the first processor.

Allowable Subject Matter

7. Claims 3, 12 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 13 is also objected as it further limits the allowable claim 12.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HETUL PATEL whose telephone number is (571)272-4184. The examiner can normally be reached on 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hetul Patel/
Patent Examiner
Art Unit 2186